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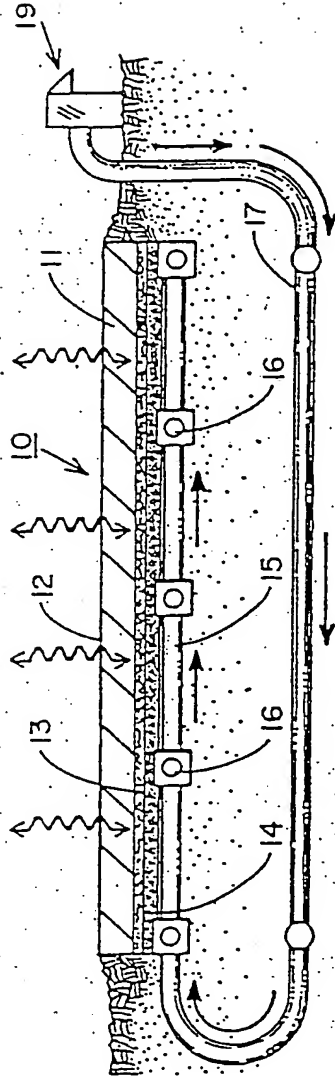


FIG. 1

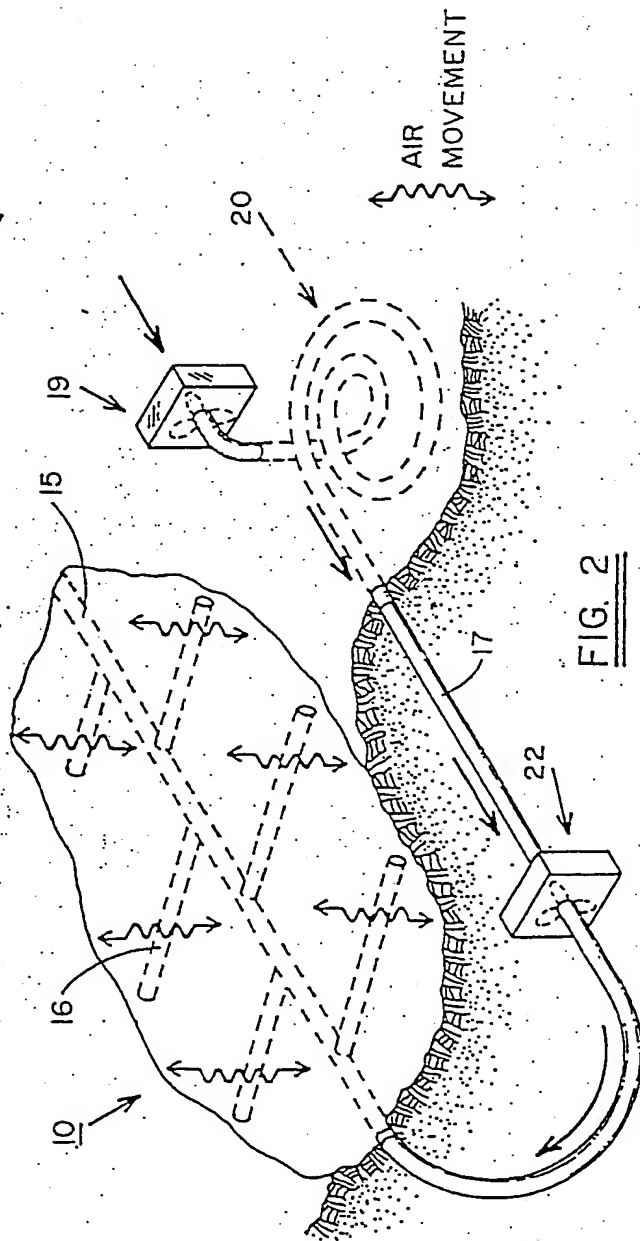
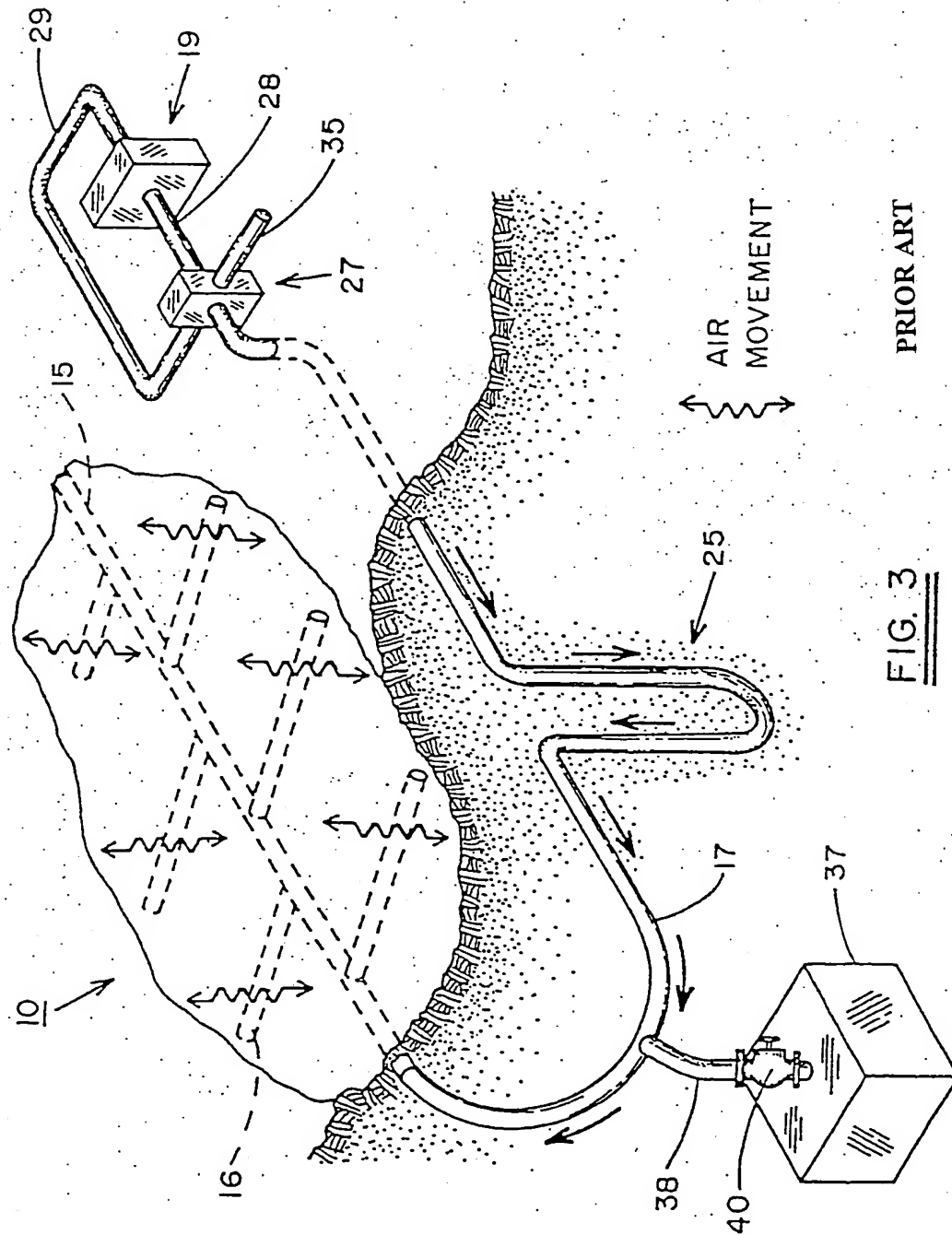


FIG. 2

PRIOR ART



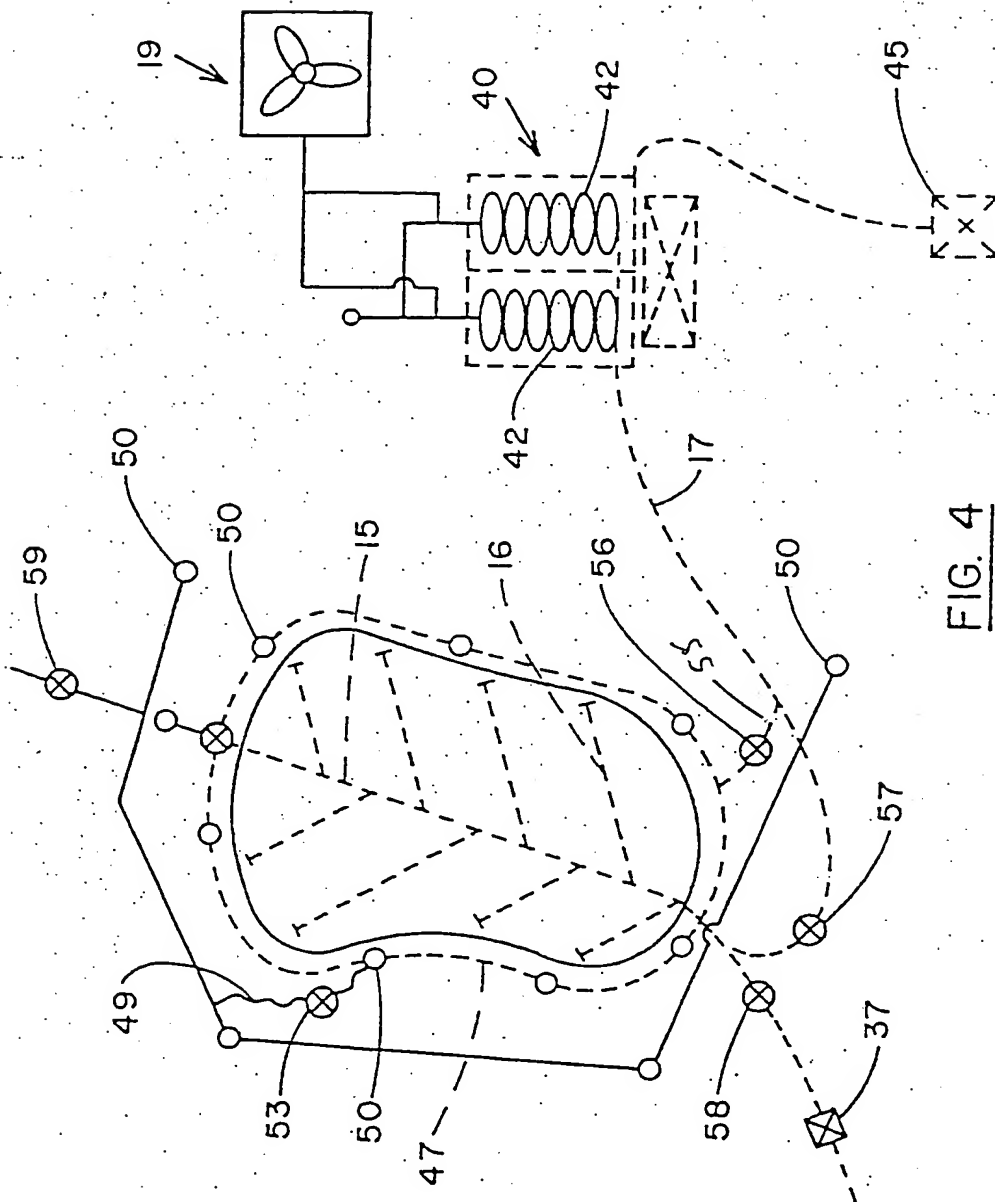


FIG. 4

PRIOR ART

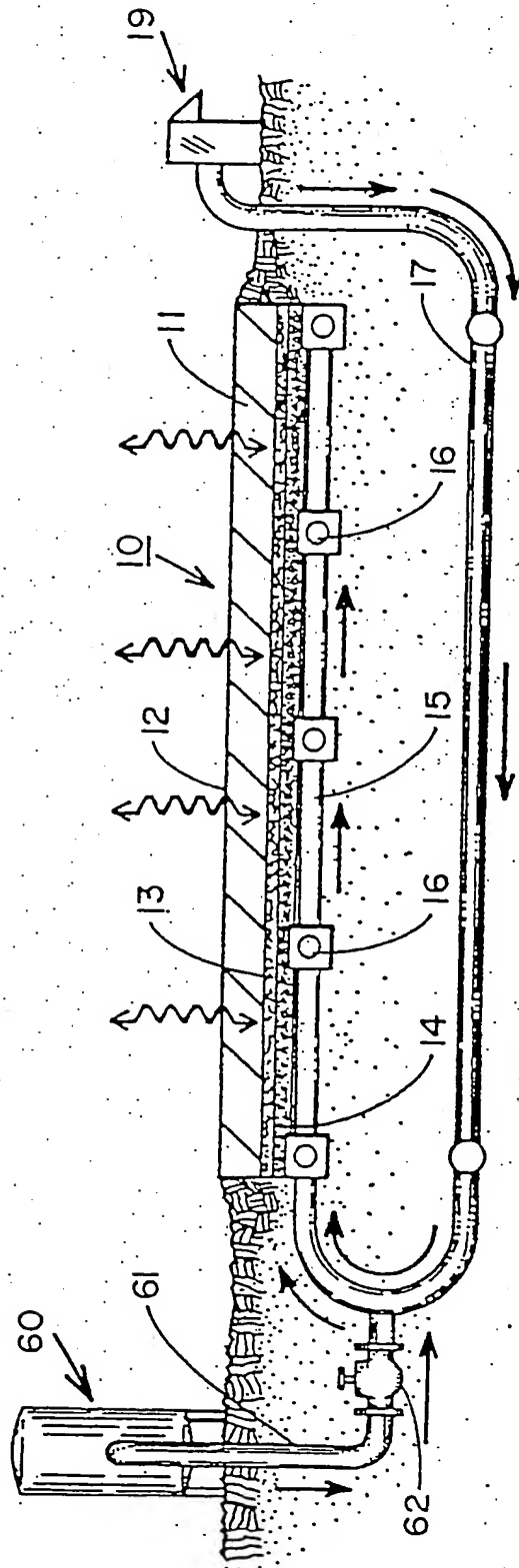


FIG. 5

PRIOR ART

PRIOR ART

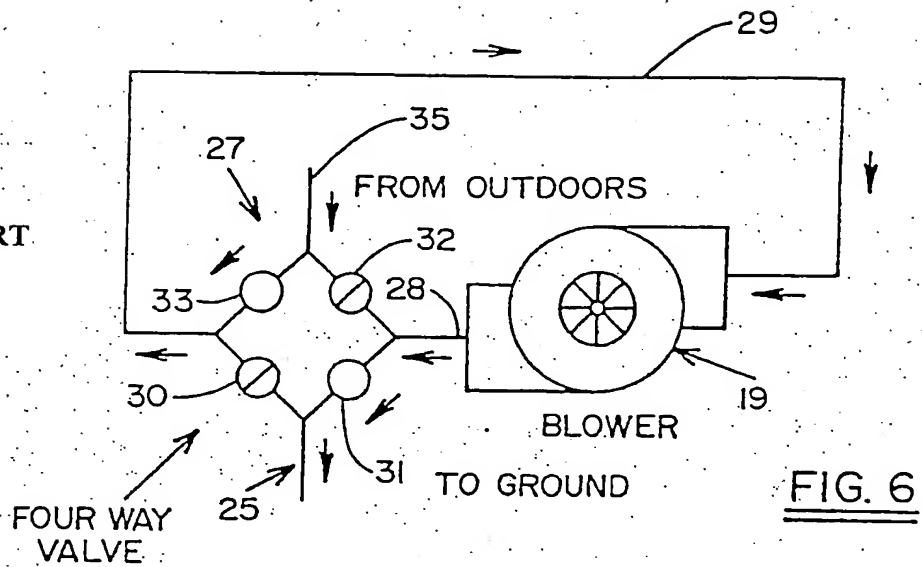


FIG. 6

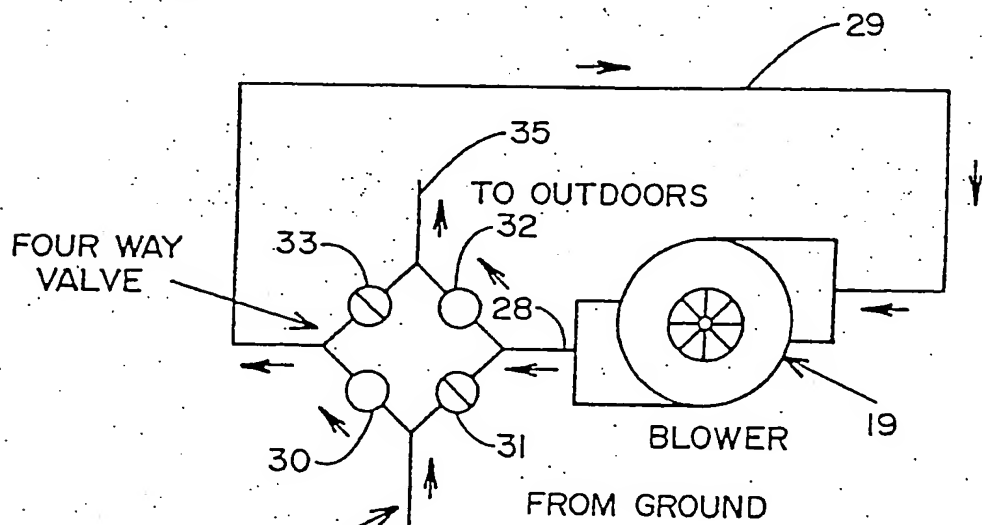
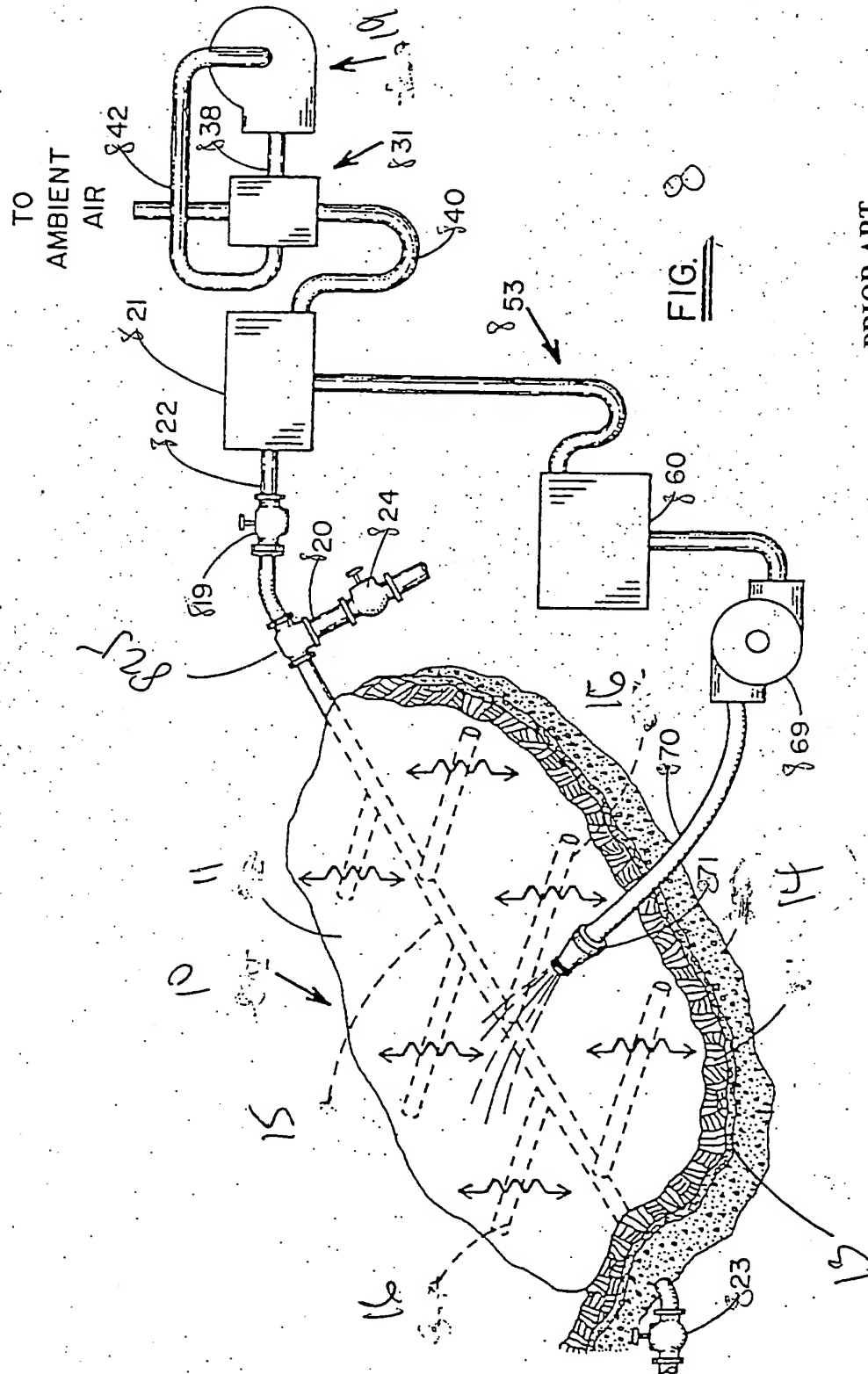


FIG. 7



PRIOR ART

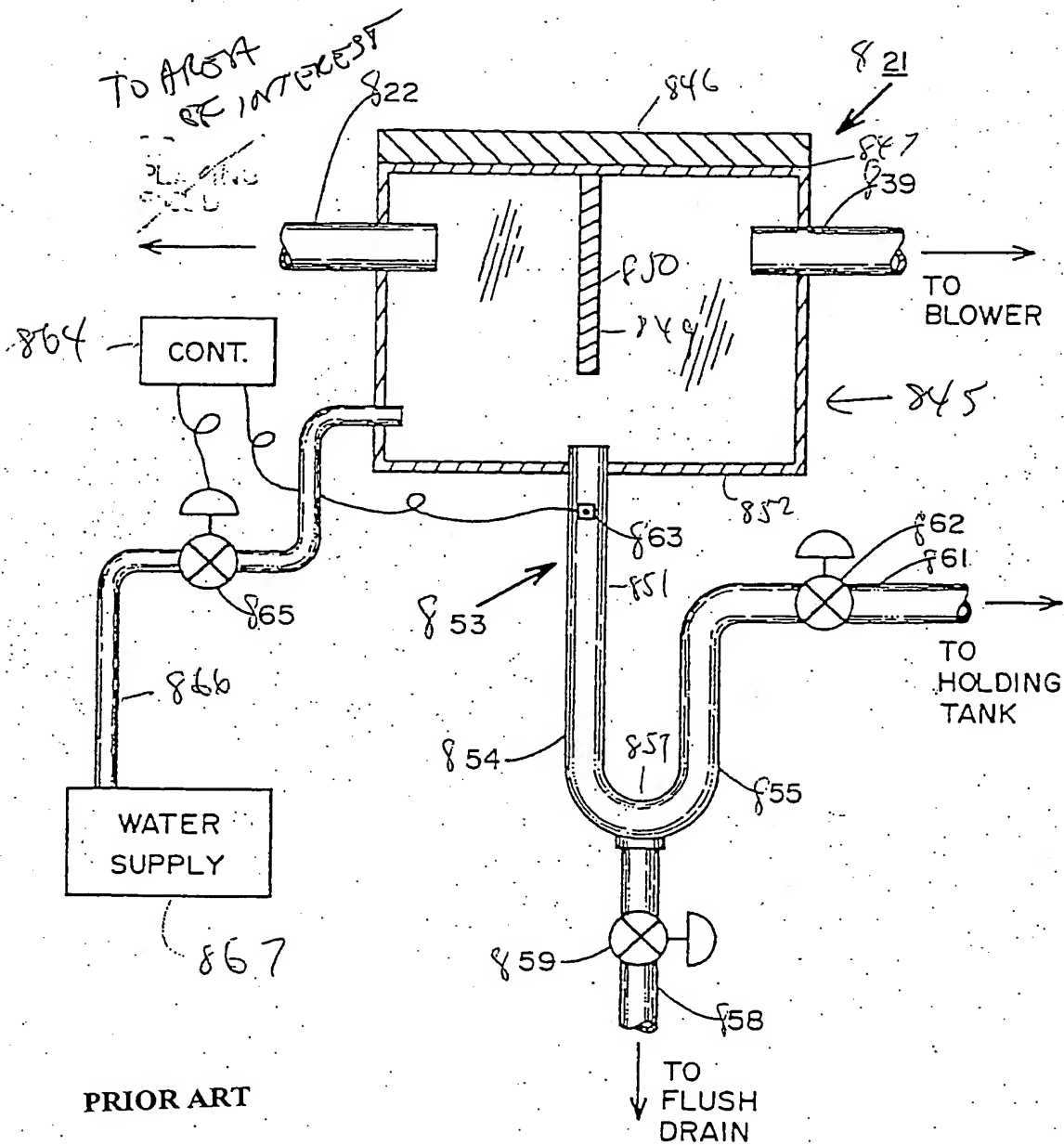
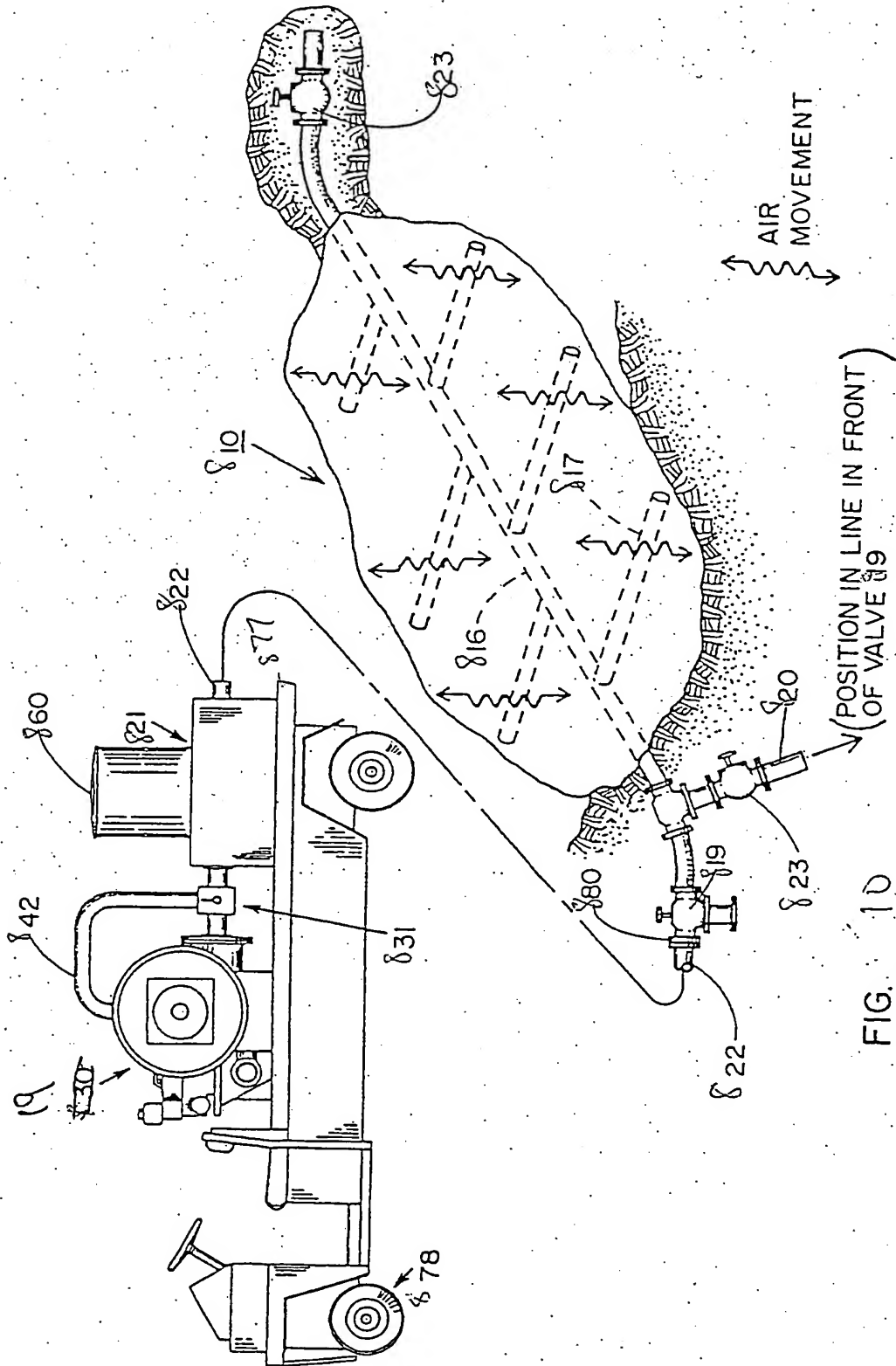
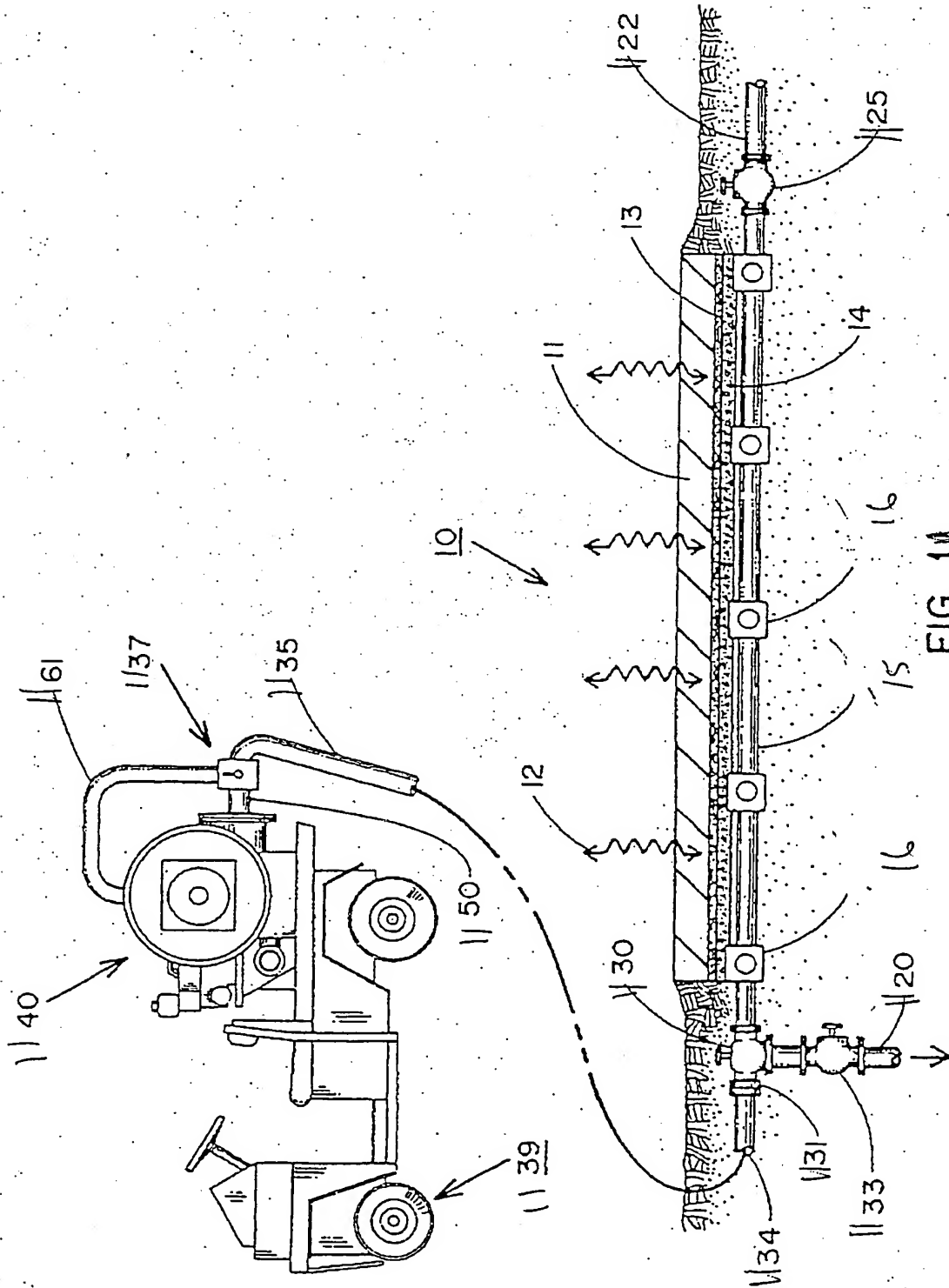


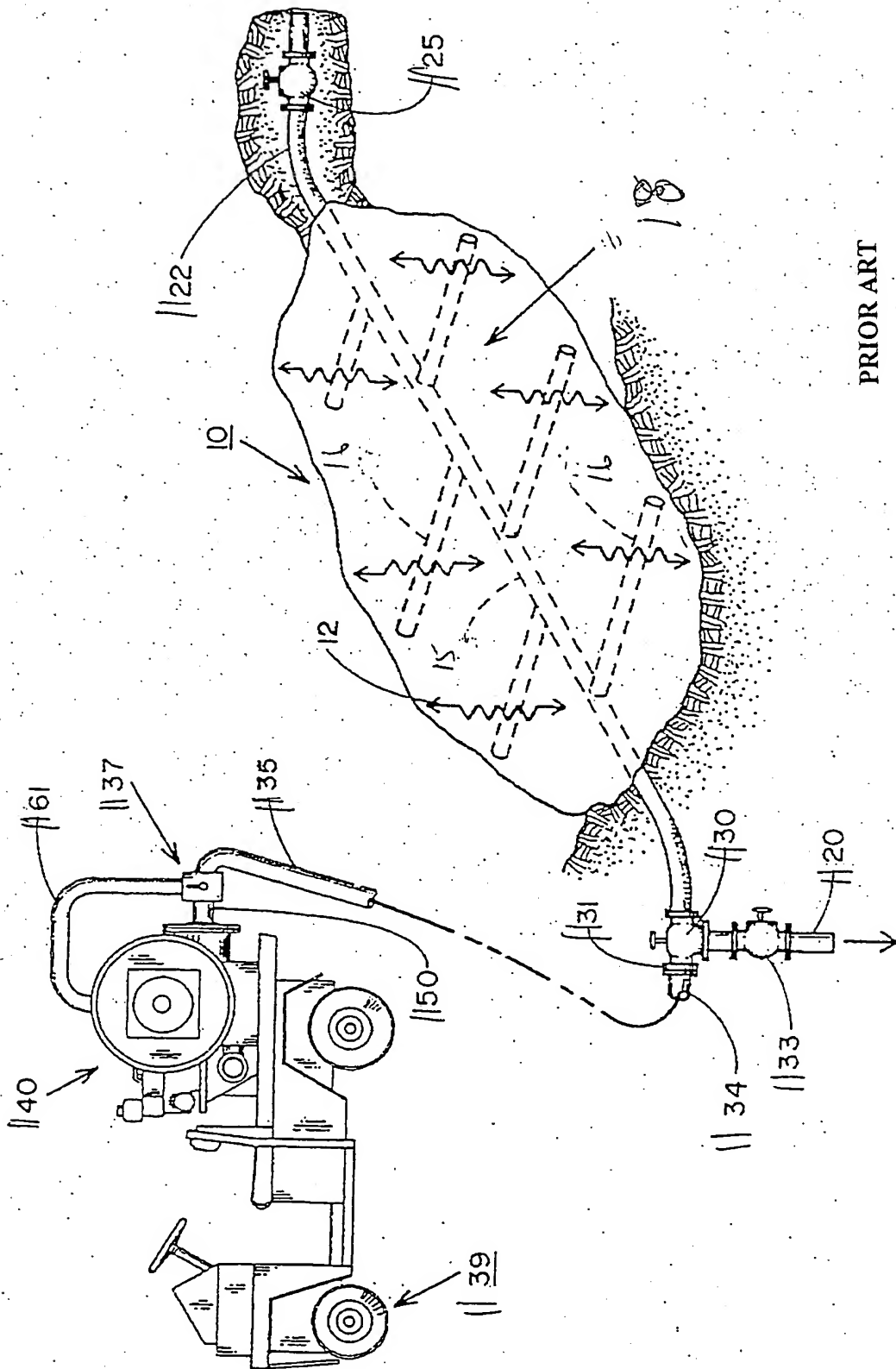
FIG. 9







PRIOR ART





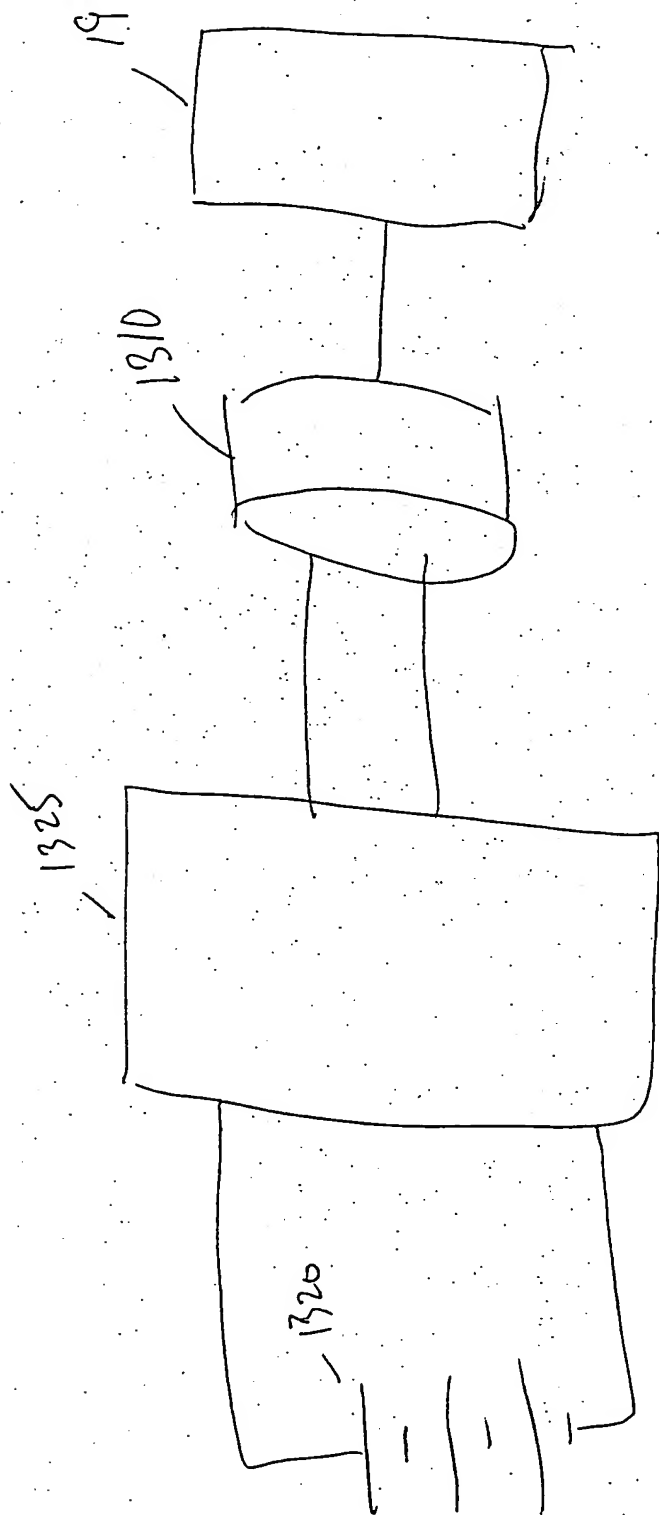
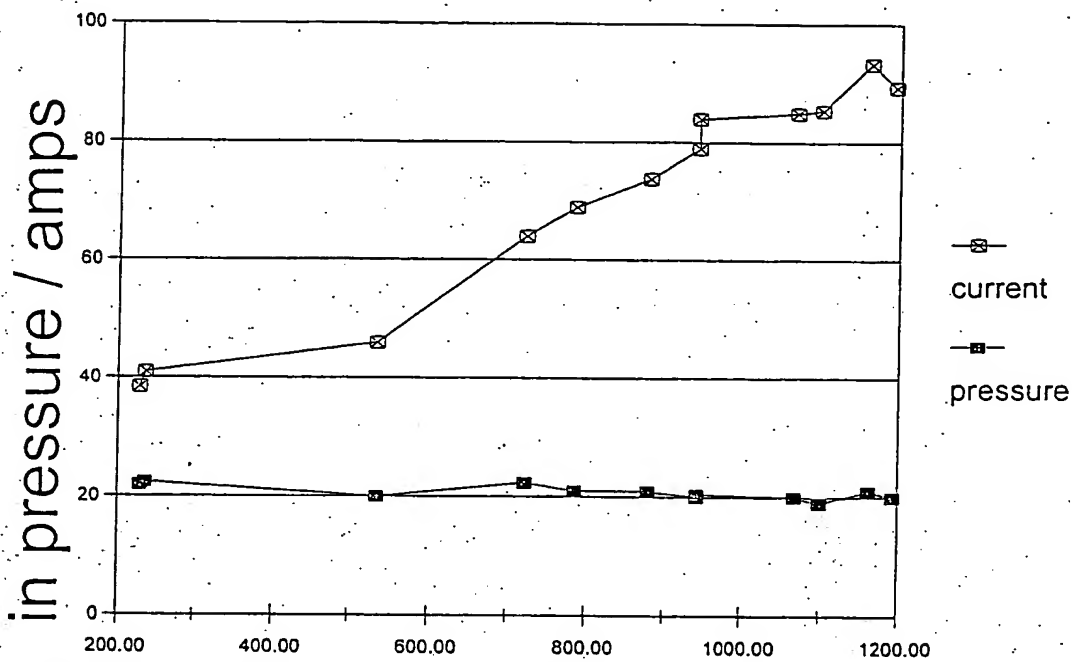


FIG. 13A



Fig. 4



CFM (8\" ID pipe & .9 correction)

Fig. 15

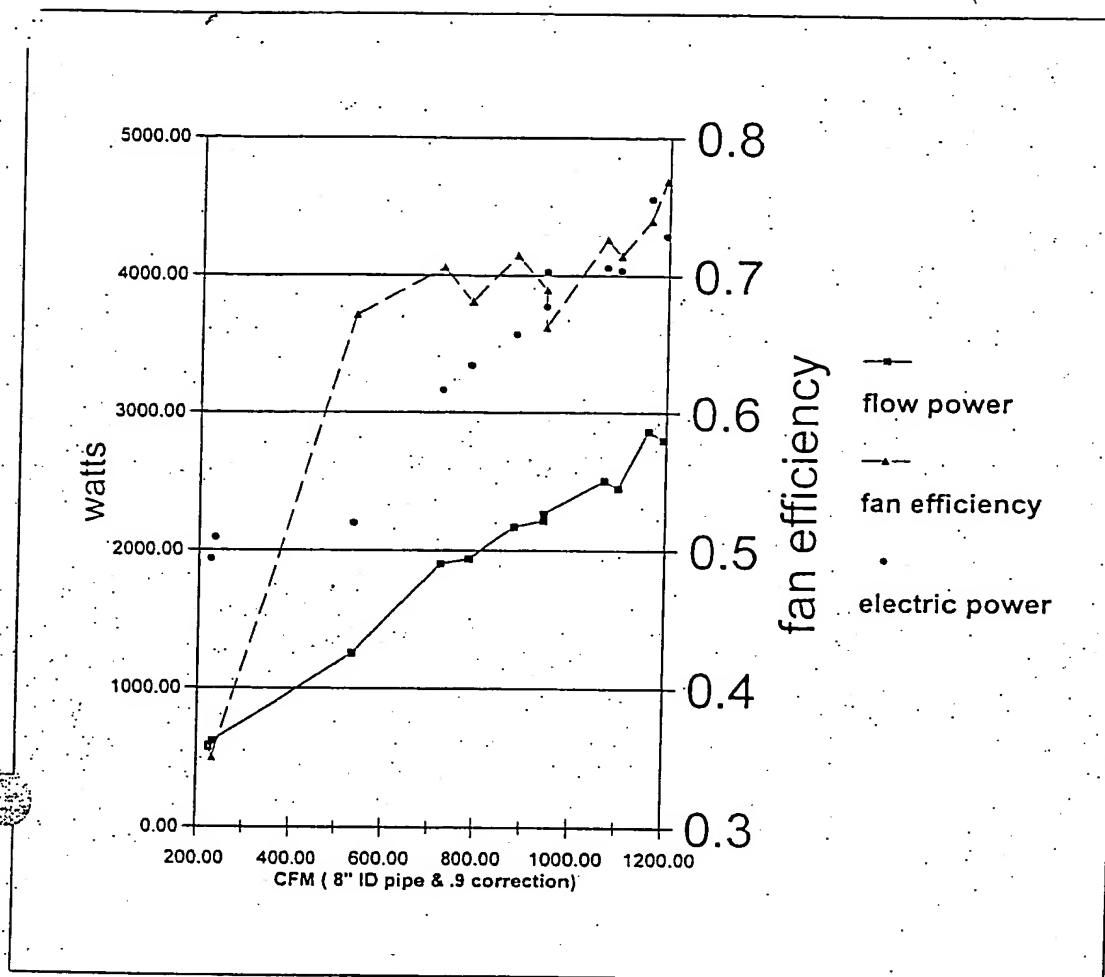


Fig. 16



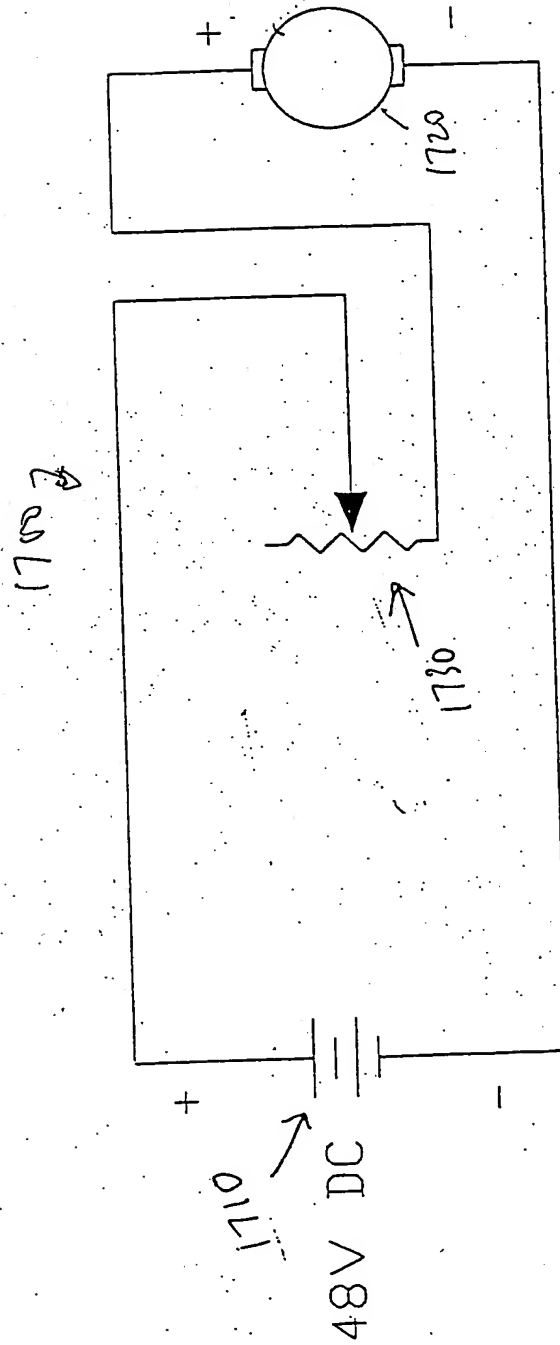


Fig. 17

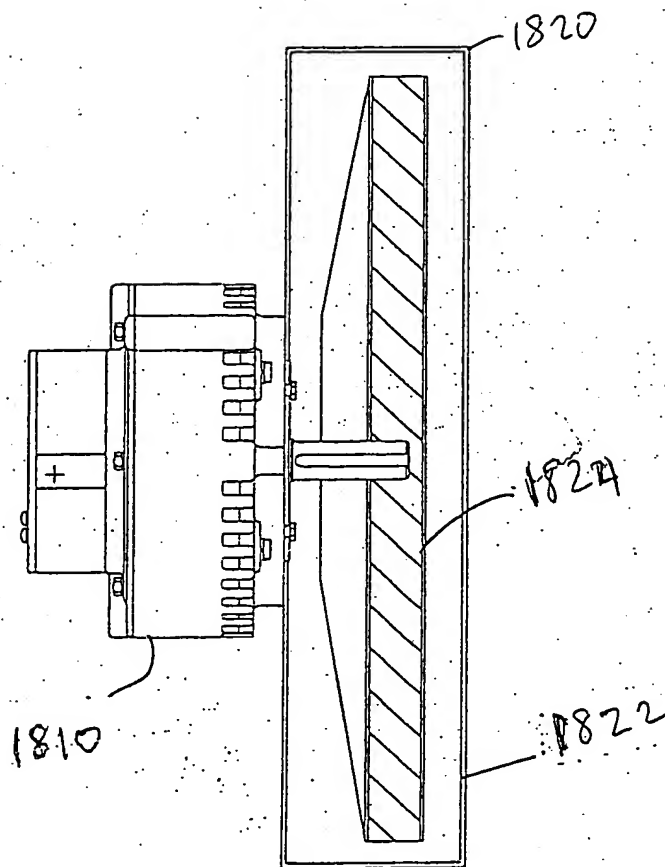


Fig. 18

1900



1940

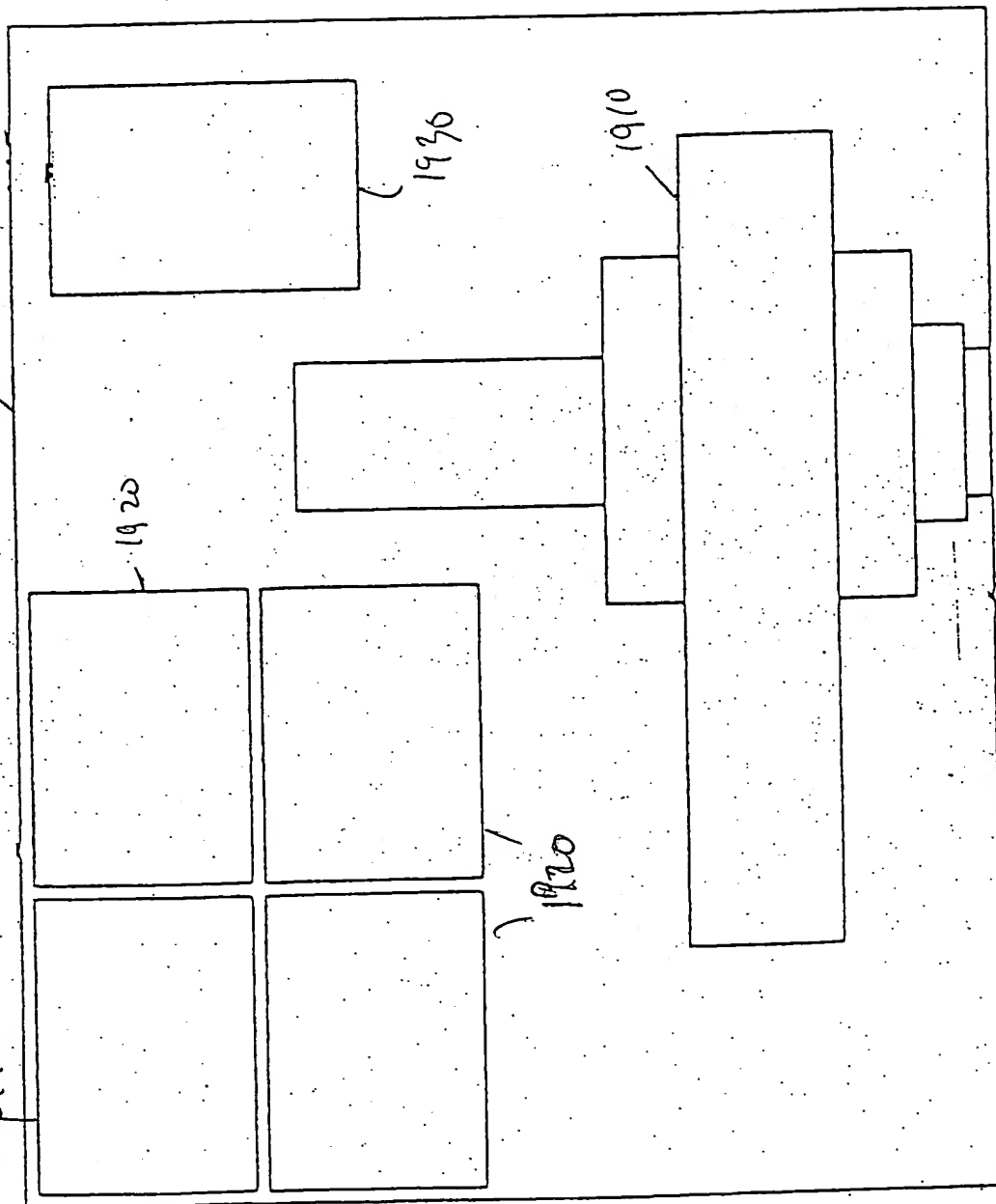


Fig. 19

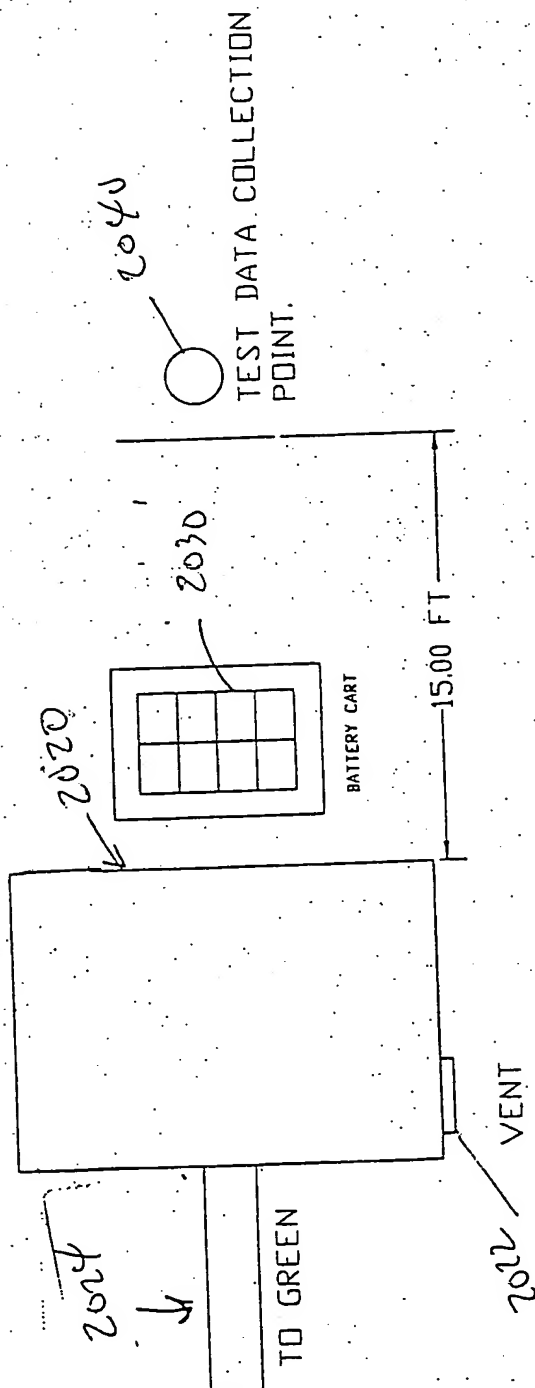
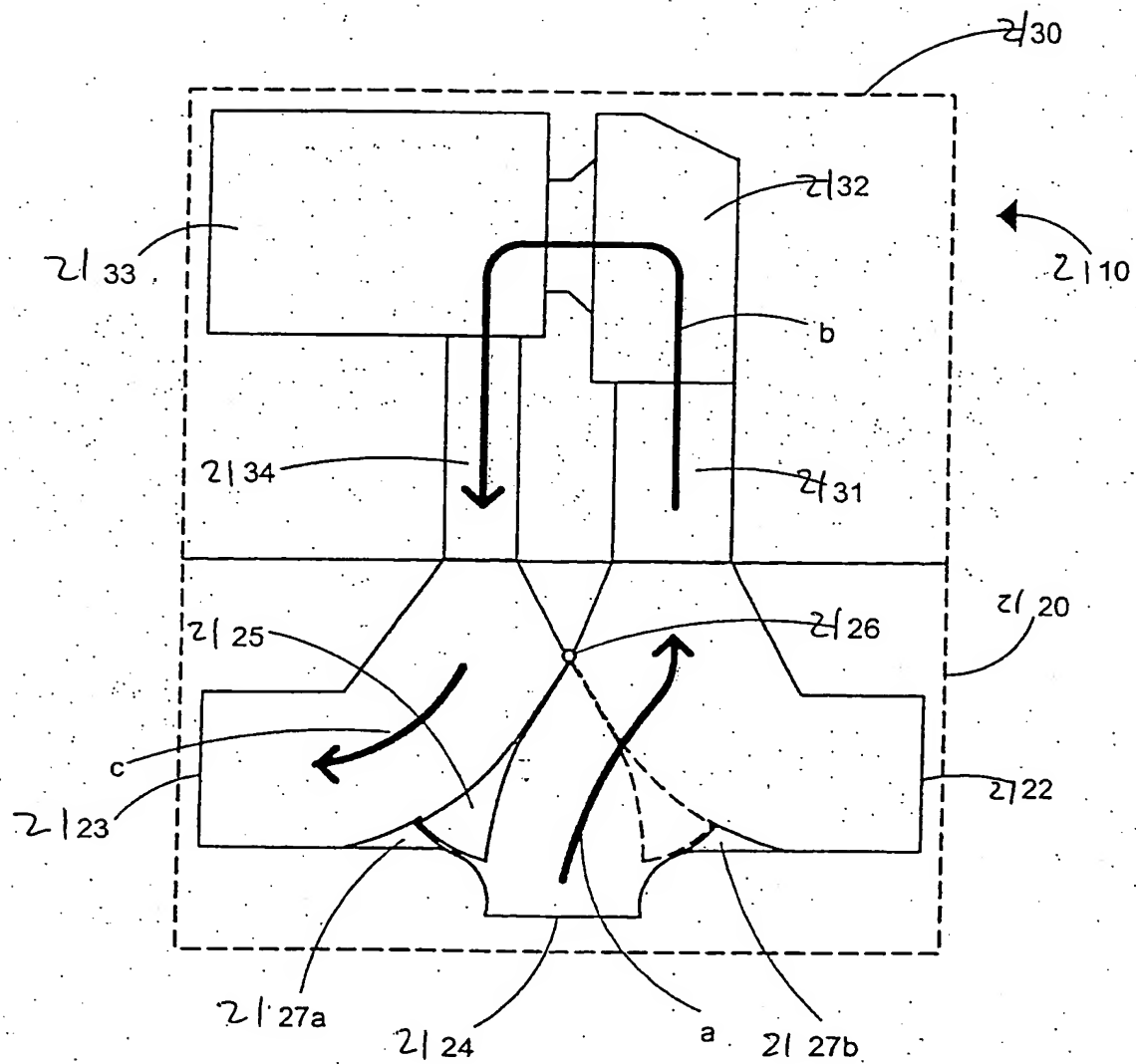
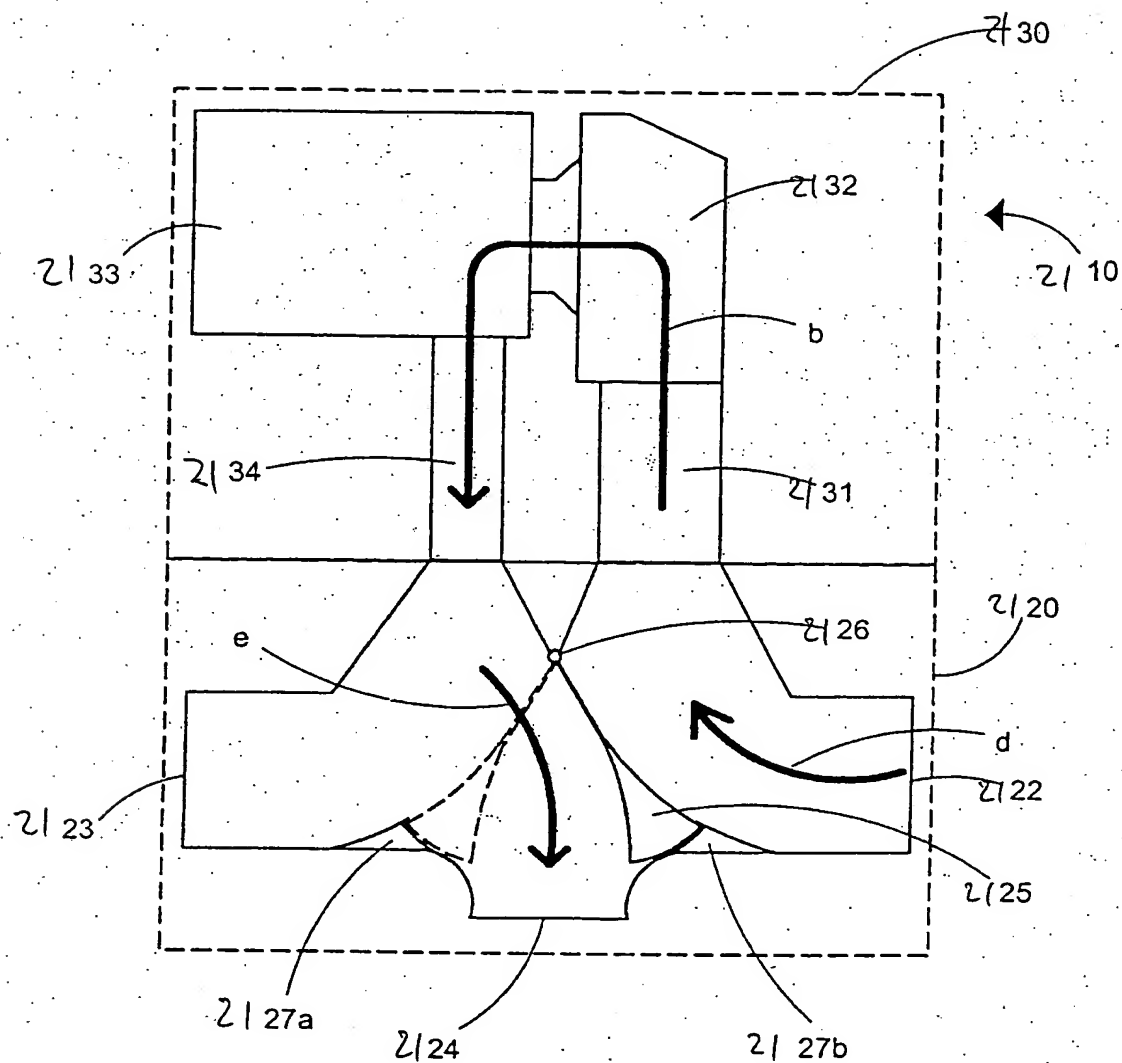


Fig. 20

Fig. 21



## PRIOR ART



PRIOR ART

Fig. 23

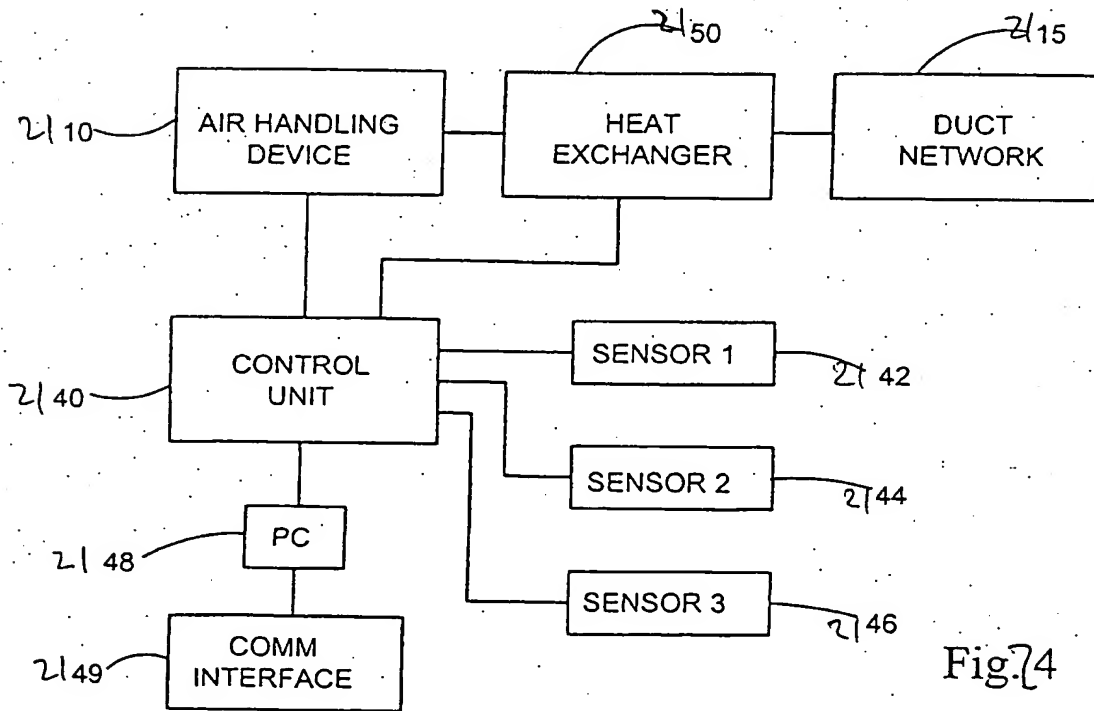
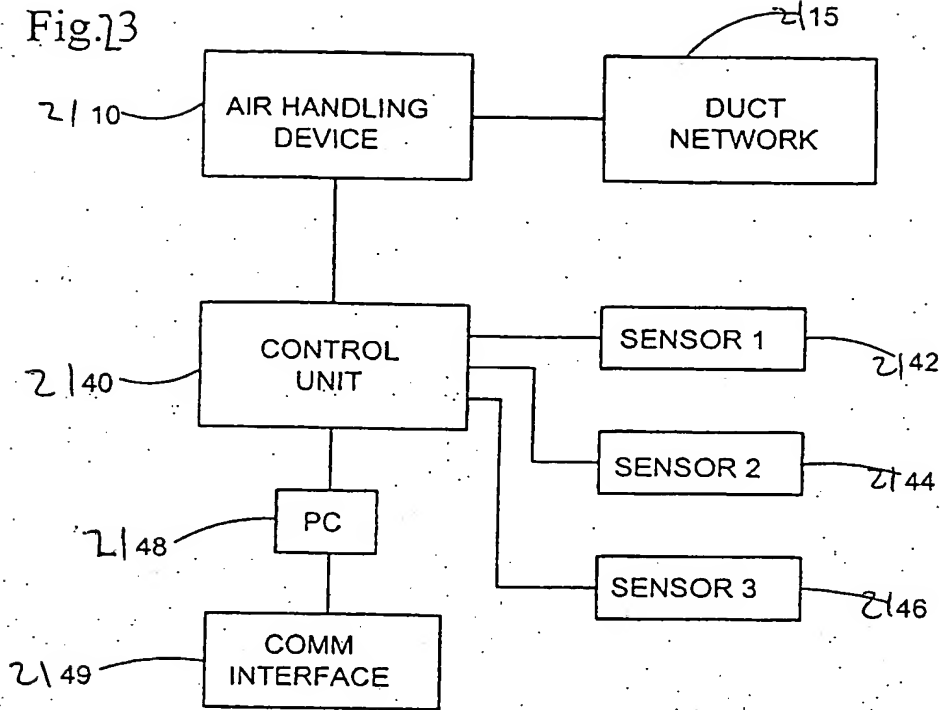


Fig. 24

PRIOR ART

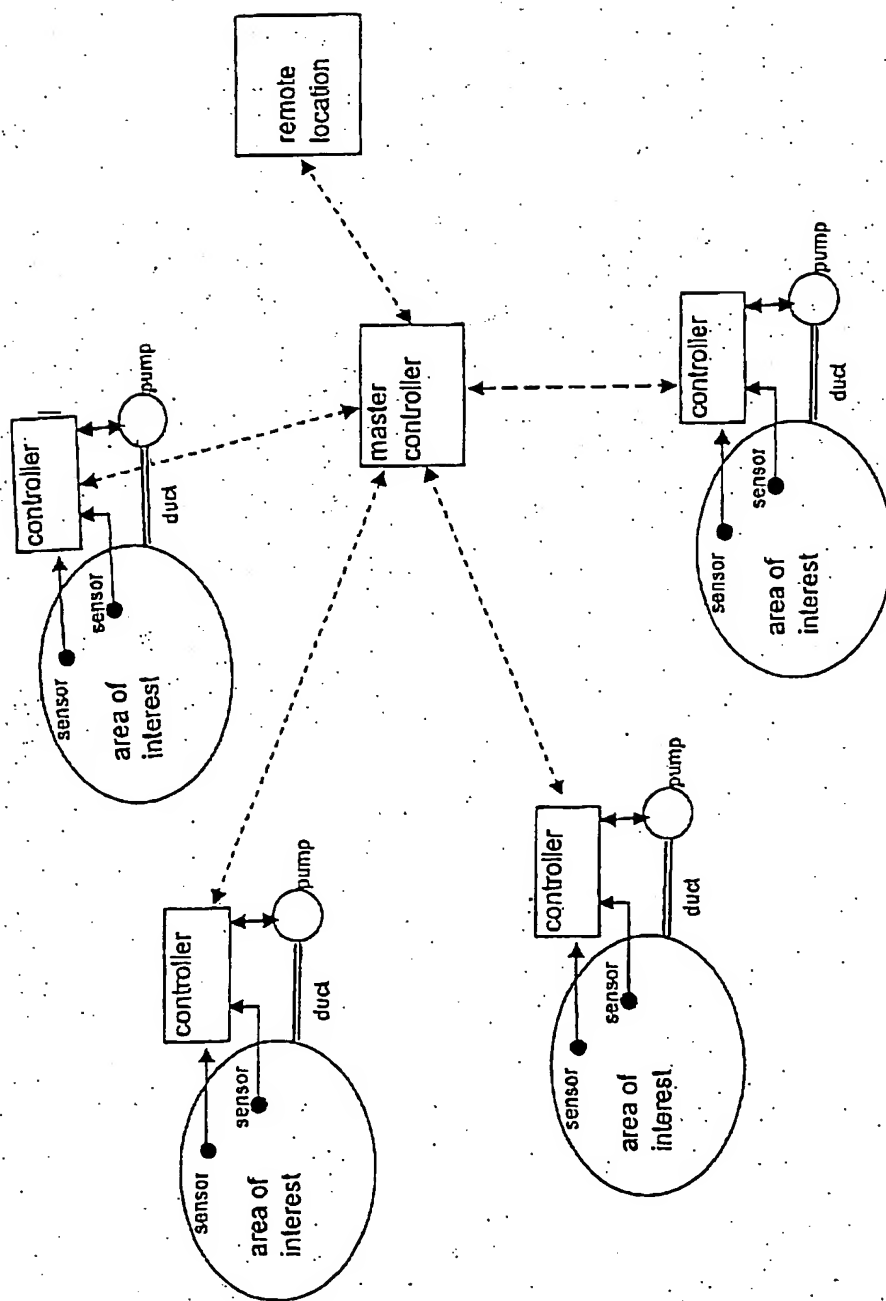


FIGURE 25



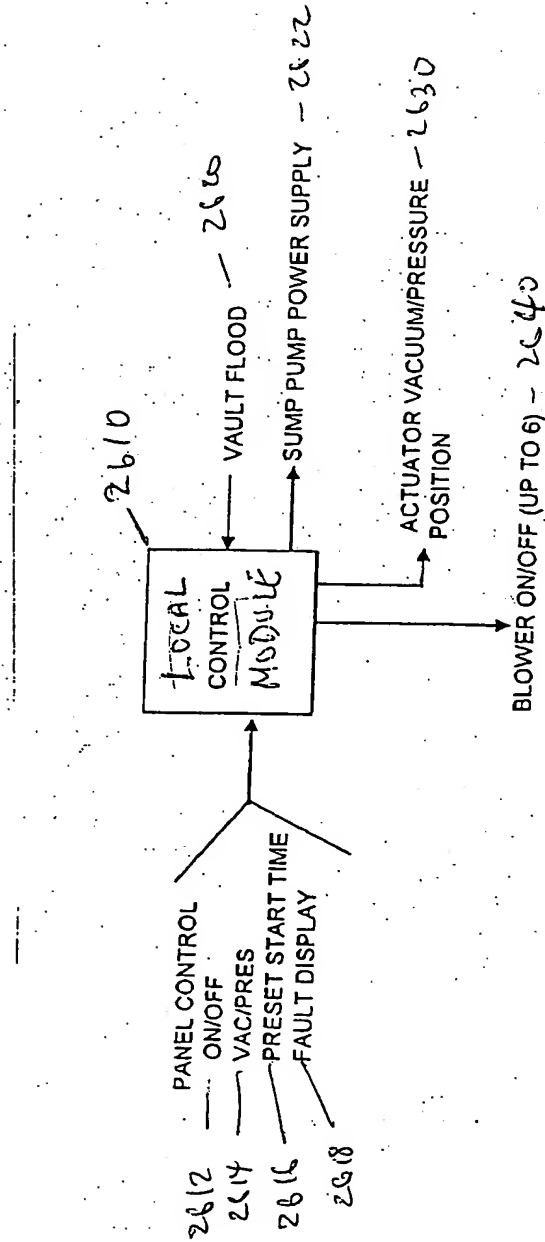


Fig. 26

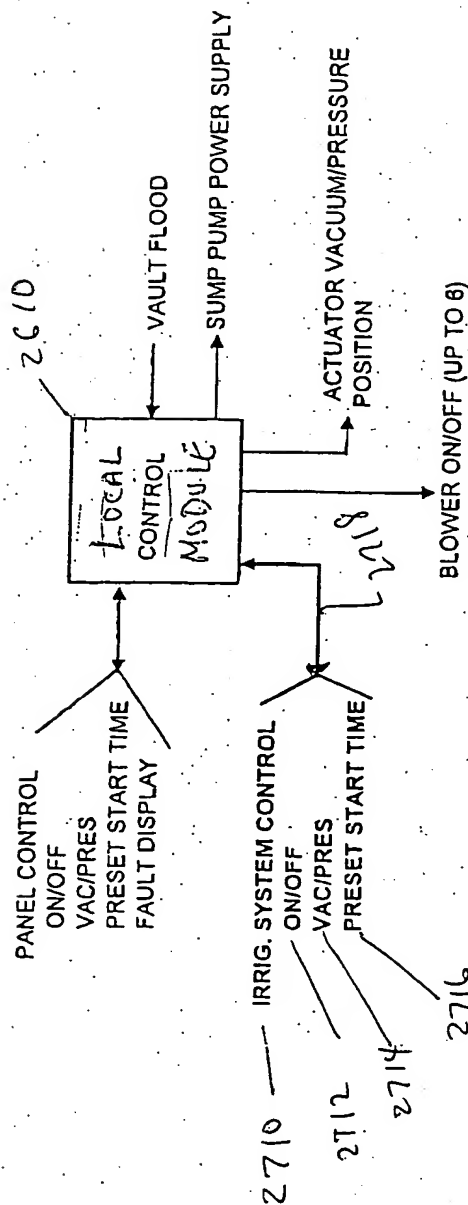


Fig. 27

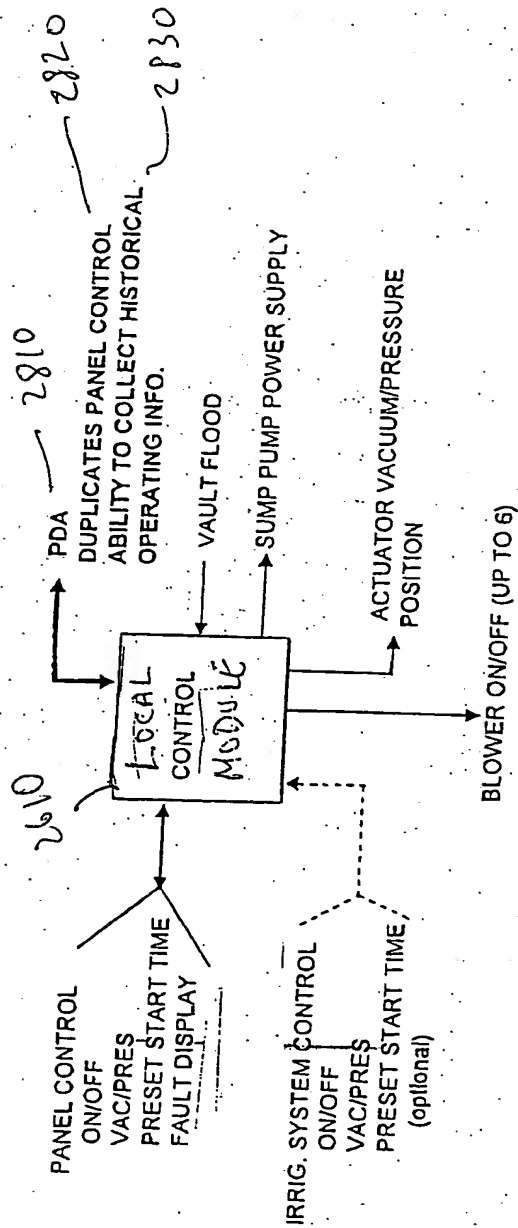


Fig. 28

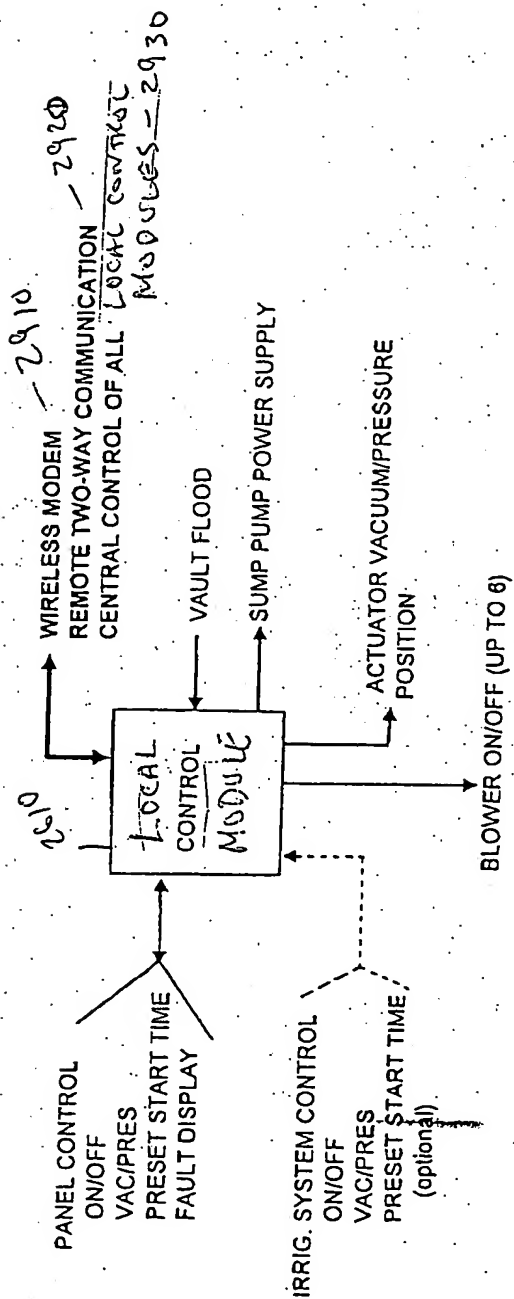


Fig. 29

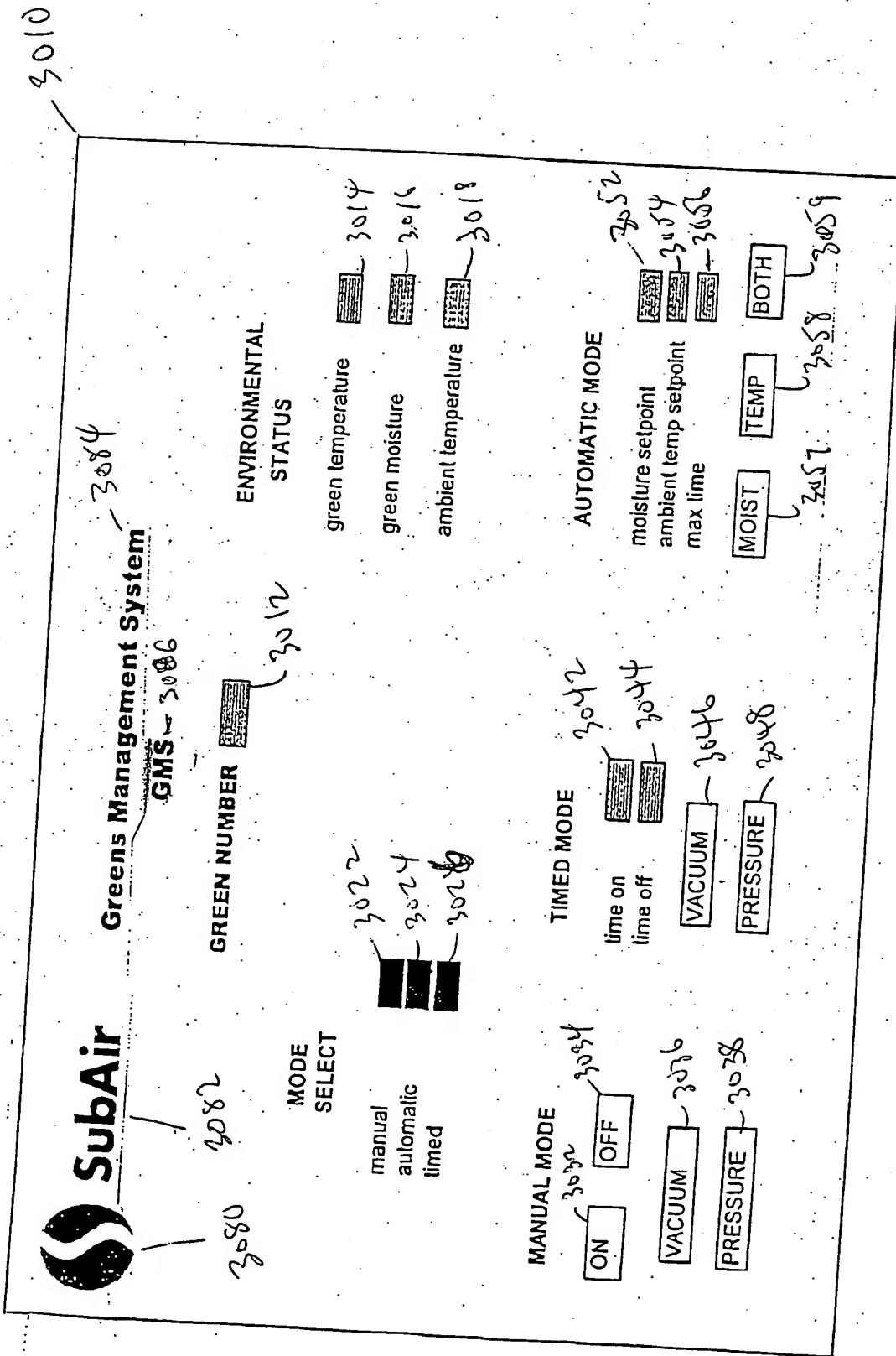
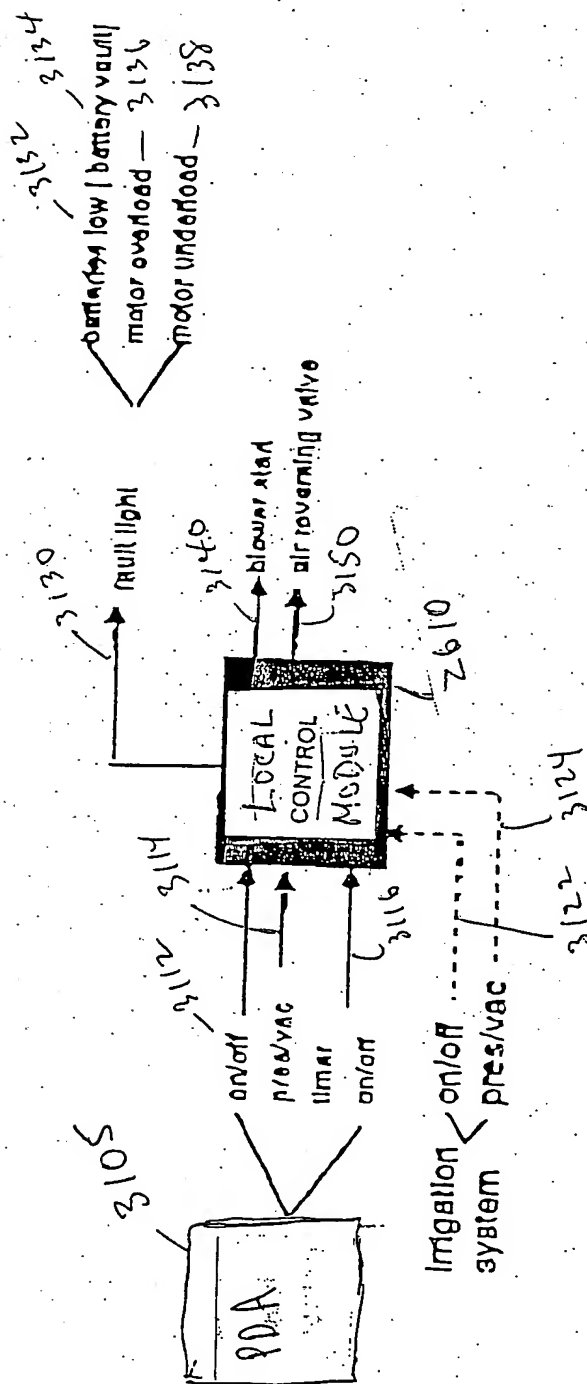


Fig. 30

Fig. 31



### FEATURES

- local control via PDA
- local display of faults
- time of day programmable start/stop
- Auto start from Irrig. System

# Environmental Monitoring and Control

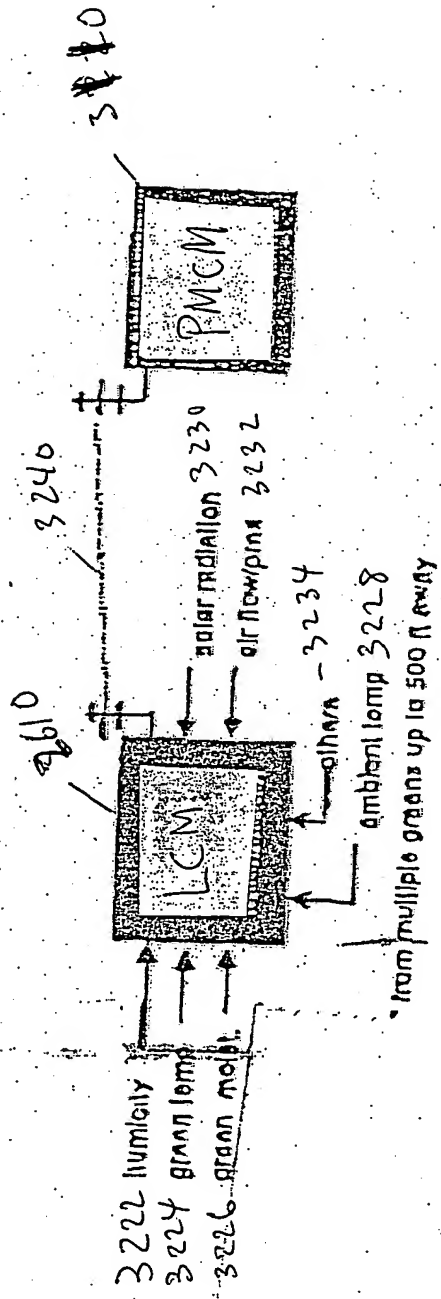


Fig. 32

## FEATURES

- auto control programs based on temp & moist
- data-logging & trend charting history

# Network Communications

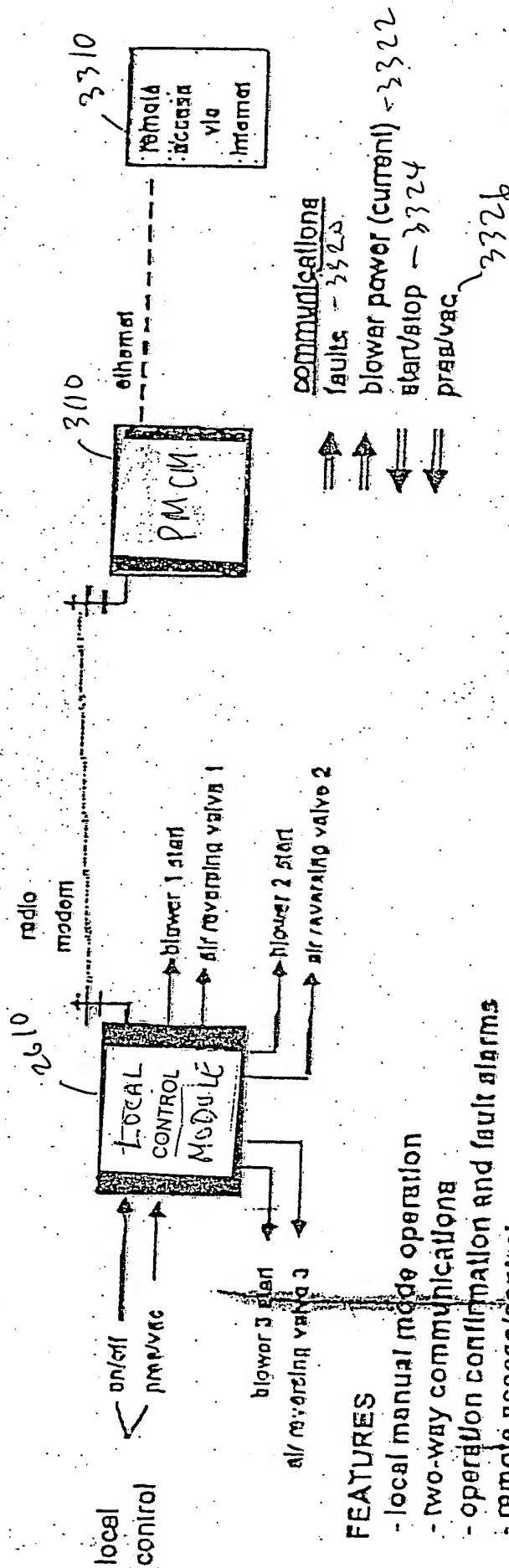


Fig. 33



## Equipment Panel

local disconnect (used)  
 transformer (if 480 v supply)  
 motor contactor  
 motor overloads  
 current switch (contact close @ >2 amps)  
 relays: motor start  
           air reversing valve & actuator  
           for one vault to two greens (double vault):  
           diverter actuator - green A  
           diverter actuator - green B  
 panel door switch - on vacuum/ on pressure  
 panel door fault lite (overload/underload/flooded vault)

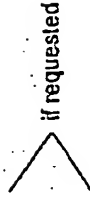
## Field Devices

high pressure blower - 7.5 or 10 hp typically  
 [230 single or 230/460 three phase]  
 air reversing valve & actuator  
 2 - diverter valves & actuators (if double vault)  
 sump pump (if below ground)  
 float switch (indicates flooded below-ground vault)  
 moisture/temp sensor in green (if requested)  
 ambient air temp sensor (if requested)

## Communication & Control

Outputs to panel  
 blower on  
 air reversing valve to pressure position (at rest is vacuum)  
 for one vault to two greens:  
 open diverter valve to Green A  
 open diverter valve to Green B

Inputs from panel & field devices  
 motor overloads dropped out  
 current <2 amps when running  
 vault flooded  
 green moisture  
 green temp  
 ambient temp



Logic requirements  
 blower on based on - time of day  
 blower on based on - temp &/or moisture [if requested]  
 vacuum to green  
 pressure to green  
 green A &/or green B [if double vault]  
 shut down/do not start if vault flooded

Fig 3A